Key Stakeholder Survey – Report
2nd Generation Southeast Landscape Plan

MFRC Southeast Regional Landscape Committee

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This report was prepared for the **MFRC Southeast Regional Landscape Committee**.

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Executive Summary

Background

In 2001 the Experiment in Rural Cooperation, a partnership run through the University of Minnesota, implemented a survey of key stakeholders in southeast Minnesota to gather input on the importance of various forestry issues within the region. The information that was gathered was used, in part, to assist in the development of the Forest Resource Management Plan for Minnesota's Southeast Landscape, a landscape-level plan meant to guide public and private forest management in Dodge, Fillmore, Freeborn, Goodhue, Houston, Le Sueur, Mower, Olmsted, Rice, Steele, Wabasha, Waseca, and Winona counties.

In 2013 the Minnesota Forest Resources Council and the Southeast Landscape Committee chose to implement the survey again in order to collect feedback that would guide the first revision of the Plan, which will be finalized in 2014. The survey was intended to be a non-scientific opinion-gathering tool aimed at a select audience of key stakeholders in southeast Minnesota from a variety of disciplines, including agency staff and service providers, legislators, county commissioners, Southeast Regional Committee members, and other interested persons associated with the Committee. Minor revisions were made to question content and format, leaving many of the original statements intact or abbreviated. Open-ended questions were added to capture new issues and to gauge the positive and negative results of forest management over the past decade or so. Whereas the 2001 survey was implemented by mail, the 2013 survey was largely implemented online.

Key Issues

The survey contained 59 statements that were grouped by theme into unlabeled multi-part questions. Participants were asked to rate the importance of each statement on a five-point scale from "not important" to "very important." Themes that received the overall highest ratings included biodiversity and soil/water quality, while wildlife and public land management themes received the lowest average ratings, in terms of importance.

However, categories sometimes contained both highly important and less important statements, as viewed by respondents. For example, in the question about invasive species management control of buckthorn and garlic mustard were ranked among the most important issues overall, while control of honeysuckle and earthworms was ranked among the least important issues overall. These extremes may have been in part a result of participants ranking species against one another instead of considering the individual importance of each; however, the results reflect clear differences among species, in terms of how participants viewed the urgency of their control. As another example, statements pertaining to timber management, harvest, and regeneration received a range of overall ranks, but two statements about promoting oak regeneration were rated among the most highly important issues overall.

The lowest ranking issues overall from 2013 were fairly consistent with 2001 results, with some shifts among the highest ranking issues. In terms of change, issues that seemed to increase in

importance the most over time included statements about: control of garlic mustard (biggest increase), long-term protection of forest land to conserve the forest base, and encouraging low impact logging techniques. Issues that seemed to decrease in importance the most over time included statements about: promoting forest management to improve genetic quality (biggest decrease), increasing funding for stewardship planning assistance and incentives programs, innovation and study on state forest lands, grazing of woodlands, and the need for better markets for low quality trees.

Insights from Open-Ended Questions

Open-ended comments did not elicit as much response as expected, with less than 20% of survey respondents providing additional forest issues, and about 30% providing examples of positive and negative results of land stewardship activities or issues. The most common themes that arose from these open-ended questions centered on financial or market-based issues and private land management issues. For questions about positive and negative results of land stewardship activities, positive financial-themed comments pertained to topics such as tax and cost-share programs and the Forest Stewardship program, while negative comments pertained largely to lack of capacity, especially for private landowner outreach. In terms of private land management, participants expressed both positive and negative outlooks about topics such as landowner education, forest stewardship plans, and management of forests on agricultural properties.

Implications and Next Steps

Survey respondents were nearly evenly split over their views about whether overall management in southeast Minnesota had improved, declined, or neither improved nor declined. This range of opinions likely reflects a wide variety of priorities among surveyed stakeholders. To further explore these priorities and gather feedback on potential actions and solutions, follow-up focus groups will be held in September 2013. A select group of survey respondents as well as active landowners in the region will be invited to discuss survey findings, brainstorm other important issues that were missing from the survey findings, and discuss the current status and future goals for the most important overall issues. The insights gained through both the survey and the focus groups will be used to help guide revision of the 2014 Forest Resource Management Plan for Minnesota's Southeast Landscape.

Note to Reader: Additional regional data can be found in the reports, "Condition and Trends: 2nd Generation Southeast Landscape Plan," and "Demographic Data Report: 2nd Generation Southeast Landscape Plan", MFRC Southeast Planning Committee, 2014.

Section 1
Introduction

In 2001 the Experiment in Rural Cooperation, a partnership run through the University of Minnesota, implemented a survey of key stakeholders in southeast Minnesota to gather input on the importance of various forestry issues within the region. The information that was gathered was used, in part, to assist in the development of the Forest Resource Management Plan for Minnesota's Southeast Landscape, a landscape-level plan meant to guide public and private forest management in Dodge, Fillmore, Freeborn, Goodhue, Houston, Le Sueur, Mower, Olmsted, Rice, Steele, Wabasha, Waseca, and Winona counties. In 2013 the Minnesota Forest Resources Council and the Southeast Landscape Committee chose to implement the survey again in order to collect feedback that would guide the first revision of the Plan, which will be finalized in 2014.

Section 2
Methods

The survey was intended to be a non-scientific opinion-gathering tool aimed at a select audience of key stakeholders in southeast Minnesota from a variety of disciplines. The sample pool contained agency staff and service providers, legislators, county commissioners, Southeast Regional Committee members, and other interested persons associated with the Committee; names and information were taken largely from a database of key stakeholders in southeast Minnesota that is maintained by Minnesota Forest Resources Council (MFRC) staff. A total of 198 individuals were invited to participate in the survey; 93 people replied to the invitation, 85 of whom partially or completely filled out the survey for a final useable response rate of 42.9%.

The format of the survey was similar to the 2001 survey. In 2001 statements were collected from approximately 36 key stakeholders that reflected various challenges, opportunities, and other issues surrounding forestry in southeast Minnesota and then subsequently ranked by these stakeholders in an iterative, dual-survey process. Participants were asked to prioritize each statement on a 10-point scale. The 2013 survey consisted mainly of these same statements (though in some cases, longer statements were reduced for simplicity, or small wording changes were made for clarity) in order to make comparisons between past and present views. Participants were asked to rate the importance of each statement on a 5-point scale rather than a 10-point scale for simplicity; the scale was also reversed to reflect the change in wording from "priority" (where "1" indicates the highest priority and "5" the lowest priority) to "importance" (where "5" indicates the greatest amount of importance and "1" the least amount of importance). The 2001 results presented in this document were adjusted to reflect these changes and to allow for comparison to 2013 responses, to the extent which it was appropriate.

While the 2001 survey was implemented via mail, the 2013 survey was largely implemented online using Snap survey software. As there was no record of email addresses for a small percent of survey invitees, those individuals were sent paper copies of the survey via mail. Out of the 198 individuals surveyed, 183 were surveyed via internet (79 responses) and 15 were surveyed via mail (6 responses).

The survey consisted mainly of two parts: the closed-ended statements described above and open-ended questions. The closed-ended statements were organized into multi-part questions based on the subject matter of the statements (see Table 2); these categories were not explicitly stated in the survey, however, to prevent leading the participants. Rather, each question of this type was the same, asking participants to quantify the importance of the issue described by each statement: *"On a scale of 1 through 5, where 1 = Not Important and 5 = Very Important, please rate the importance of the following issues in southeast Minnesota."* Space for comments was provided at the end of each multi-part question. The purpose of the open-ended questions was to gather input on new issues that had emerged since 2001, as well as to ascertain the perceived degree of progress on addressing land management issues in southeast Minnesota, as viewed by participants.

The survey was implemented over an approximately 5-week period using a 5-part communication format based on Don Dillman's Tailored Design Method for surveying (Dillman et al. 2009[1]); a pre-notice letter was sent to all participants by mail, followed by an initial email invitation with the survey link (or mail letter with a paper survey), two follow-up reminders (email or mail), and a final reminder to alert participants that the survey would soon be closing (email or mail). Online data was exported from Snap to Microsoft Excel for analysis; paper data was entered by hand into Excel. Averages and overall ranking for both question categories and individual statements from the closed-ended questions are described below. Statements provided for the open-ended section were coded and organized by the same categories used to organize the closed-ended statements (see Table 2).

[1] Dillman, D.A., J.D. Smyth, and L.M. Christian. 2009. Internet, Mail, and Mixed-mode Surveys: The Tailored Design Method. Wiley & Sons: Hoboken, N.J. 499 pp.

Section 3
Results

Closed-Ended Questions

Demographic Summary

The average age of the respondents was 53 years old (n=76) (Table 1). The vast majority of respondents were male – 81% of those who responded to the question – while only 19% of respondents were females (n=79); this was approximately equivalent to the gender ratio of the sample pool. The majority (66%, n=73) of respondents were conservation professionals, government employees, or elected officials (Figure 1). Eight-percent of respondents were retired. Only a few respondents reported having taken the original 2001 survey (7%, n=84); the rest either did not take it (69%) or could not remember (24%).

Table 1: Average age (n=76) and gender (n=79) of respondents

Average age	53
Gender	*Female:* 19% *Male:* 81%

Figure 1: Occupations of respondents, grouped by category (n=73)

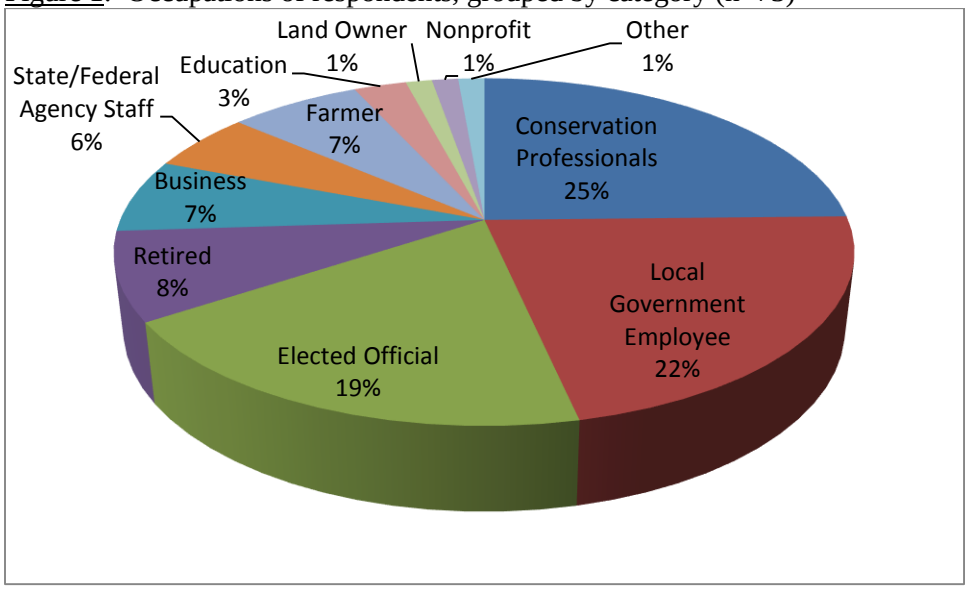

Figure provided by Suzy Meneguzzo

Issue Statements

When grouped by subject category, statements about biodiversity were rated the most important (Table 2), on average, by respondents; these included statements about preserving critical or unique habitat, and educating landowners about biodiversity. Statements about wildlife, however,

received nearly the lowest average ratings compared to other categories; these included statements about creating management plans with wildlife as the top priority, and transitioning from an oak-dominant cover type to a cover type that would be more beneficial economically and for wildlife. Soil and water quality statements also ranked highly as an overall category. Statements pertaining to public land management were ranked the least important as a category, which included two statements about increasing timber harvest on public land, one of which received the lowest overall ranking out of the 59 listed issues (Table 3).

Table 2: Average rating and overall rank of statements as grouped by question category (Note: category titles not made explicit to participants).

Question Category	Number of Questions	Average Category Rating	Spread (Highest – Lowest Rating)	Overall Category Rank
Biodiversity	4	4.12	0.26	1
Forest health – Soil and water quality	4	3.95	0.48	2
Timber management, harvesting, and regeneration	11	3.82	1.08	3
Financial/market	6	3.80	0.55	4
Public education	4	3.80	0.05	4
Forest health – Exotic invasive species	6	3.78*	1.66	5
Forest health – Development	5	3.73	0.99	6
Private land management	8	3.73	1.15	6
Recreation	3	3.57	0.65	7
Wildlife	5	3.43	0.68	8
Public land management	3	3.04	0.99	9

*This number excludes open-ended additions; the average was 3.80 with additions.

However, the category rankings are not useful in all circumstances, as some categories contained both highly important and less important statements, as viewed by respondents. For example, responses to the question about control/management of exotic invasive species varied greatly, depending on the particular species. Control of buckthorn was ranked the overall most important issue out of all 59 issue statements, while control of earthworms was ranked the second least important among all issues (Table 3). Control of honeysuckle was also rated fairly lowly, while several other species that were listed by multiple respondents in the open-ended boxes within the category were rated as considerably more important by those who listed them, including emerald ash borer, Japanese Barberry, and Oriental Bittersweet (Table 4). Emerald ash borer was listed by 18 respondents – 75% of those that listed at least one additional species – and was assigned overall high importance.

As another example, in the private land management category respondents rated a statement about educating landowners to become more active forest managers as highly important, while landowner grazing of woodlands was seen as one of the least important of the 59 issues. The

category about timber management, harvesting, and regeneration contained the most statements, and also received varying responses depending upon the specific issue. Two statements about oak regeneration received the second and third highest rankings out of all 59 issues; somewhat contradictorily, a statement about discouraging conifer plantations in hardwood territory received the lowest rating in the category, and one of the lower overall ranks among all issues.

Table 3: Individual Likert-scale statements by average rating and overall rank; the five most important issues are shown in **bold**, and five least important issues are shown in ***bold italics***. Comparisons to the 2001 survey equivalent statements are also shown, where appropriate. "2001 Rank" refers to overall ranks for each statement compared to all statements present in the 2001 survey (n=65); n/a indicates that the 2013 statement was not present in the 2001 survey, or the wording or intent of the statement was changed in the 2013 survey to the extent that comparison between the two statements was no longer feasible. "Ratio Difference" refers to the difference between overall rank ratio (Overall Rank/number of statements) for each statement between 2001 and 2013. Positive ratios indicate an increase in importance/priority between 2001 and 2013, while negative ratios indicate a decrease in importance/priority over time; increasing distance from zero indicates a larger degree of change in overall rank between the two years.

Q#	*Text*	*N*	*Average Rating*	*Overall Rank (1-59)*	*2001 Rank (1-65*)*	*Ratio Diff.*
Q5b	Control/management of buckthorn	83	**4.45**	**1**	10	0.137
Q1c	We need to work harder to promote oak regeneration on public and private lands before, during, and after harvest.	84	**4.35**	**2**	17	0.228
Q1b	We are losing our quality oak resource because of lack of attention to post-harvest timber stand improvement.	83	**4.23**	**3**	6	0.041
Q2d	We should restore/preserve critical/unique habitats.	84	**4.19**	**4**	12	0.117
Q2c	We need to educate landowners about biodiversity and expand options for managing their lands with biodiversity in mind for long term (50+ years) benefits.	85	**4.18**	**5**	13	0.115
Q2a	We need to encourage species diversity.	84	4.17	6	n/a	n/a
Q5c	Control/management of garlic mustard	81	4.15	7	49	0.635
Q6b	We need to enforce stream protection against poor logging practices.	79	4.14	8	n/a	n/a
Q6d	Low impact methods of timber harvest should be encouraged on forested slopes.	80	4.14	8	n/a	n/a
Q4a	Long-term protection of forest land is needed to conserve the forest land base.	83	4.11	10	36	0.384

Q8c	We should increase education for private woodland owners to help them move from passive responses to forest land to sustainable forest management practices.	83	4.11	10		7	-0.062
Q7a	Tax policy should encourage long-term forestry (lower tax with a developed plan and long-term commitment).	83	4.10	12		2	-0.173
Q7e	Education is needed to show that with proper management and perhaps multiple-use options (on-farm processing/utilization, hunting, recreations, non-traditional forest crops/products) farm forestland can provide economic returns.	83	4.05	13		8	-0.097
Q5e	Control/management of oak wilt	83	3.99	14		25	0.147
Q8b	Technical and financial support of private land stewardship.	81	3.99	14		n/a	n/a
Q4b	Construction of homes in forest lands eliminates, degrades, and fragments forests and reduces biodiversity.	81	3.93	16		n/a	n/a
Q2b	More information on how to manage forests to maintain or enhance biodiversity is needed.	85	3.93	16		21	0.052
Q1e	We need to adopt forest management practices that more closely mimic natural disturbance regimes, including fire, to manipulate hardwood cover types.	85	3.93	16		30	0.190
Q1h	If we conclude that superior trees will reproduce superior new growth, incentives should be placed on harvest sites to leave a few for seed.	85	3.92	19		24	0.047
Q1i	Better coordination of forest management on public and private lands is needed to understand the full consequences of management decisions at a landscape scale.	83	3.90	20		29	0.107
Q5a	Control/management of gypsy moth	84	3.90	20		16	-0.093
Q6c	Encourage low impact logging techniques that enable loggers to harvest without logging roads and without damaging soil and water resources; unfortunately they are not commonly used.	81	3.89	22		47	0.350
Q8h	We should increase funding for stewardship incentives programs for private landowners to encourage long-term sustainable management.	82	3.85	23		4	-0.328
Q8a	We need to engage landowners to participate with harvest designs.	81	3.84	24		n/a	n/a

Q11b	There are problems arising from off-highway vehicle use (e.g. erosion, exotic species movement).	79	3.84	24		21	-0.084
Q4c	Planning and zoning ordinances regarding construction of houses in small communities and rural areas would help control development and protect our ecological heritage.	84	3.83	26		n/a	n/a
Q7c	We need better markets for small diameter, low quality trees and underutilized species (e.g. boxelder, elm, ironwood, aspen) to reduce harvest pressure on the forest, and increase value-added to Minnesota grown wood.	83	3.82	27		8	-0.335
Q10b	We need to educate the public regarding the value of forest industry and the importance of woodland management.	84	3.82	27		23	-0.104
Q1g	We need to find the balance between utilization and resource production (preservation) values.	85	3.81	29		30	-0.030
Q10a	We should increase knowledge by the overall population to help them understand the concept of "well managed forestry" and how products impact the long term relationship of the forest with ecological and environmental issues, recreation, and aesthetics.	84	3.81	29		11	-0.322
Q10d	The DNR needs to do much more communication to the public and in schools.	82	3.80	31		18	-0.249
Q10c	Education facilities (like Eagle Bluff Environmental Learning Center) could be better utilized to get across sound, sustainable forest management concepts through interpretive trails, demonstration, and educational seminars.	82	3.77	32		18	-0.265
Q3b	We are losing the food producing capacity of oak mast for deer, turkeys, wood ducks, etc.	82	3.77	32		43	0.119
Q8d	More private and public field staff are needed to provide technical assistance to private landowners to help them balance the various demands for forest resources.	82	3.76	34		33	-0.069

Q7f	Some way needs to be found to place a quantifiable value on the forest's non-timber resources so costs related to forest ownership and management can be accessed fairly.	80	3.75	35		28	-0.162
Q1a	Most timber in southeast Minnesota is harvested without involvement of professional foresters.	83	3.73	36		n/a	n/a
Q8e	We should investigate how to maintain management continuity as lands turn from one owner to another.	82	3.71	37		37	-0.058
Q1d	We need ways to promote forestry management to improve genetic quality.	80	3.70	38		3	-0.598
Q11a	We need to consider the visual quality of forestry practices in southeast Minnesota where tourism is also an important industry.	83	3.69	39		34	-0.138
Q4d	Smaller, fragmented ownerships and increased rural residential housing result in ownership units that are not commercially viable for timber, further increasing the pressure on the remaining commercial forest land base.	82	3.66	40		26	-0.278
Q6a	We need to examine the effects of construction and maintenance of logging roads across forested hillsides with respect to their effects on forest interior species, soil erosion, and stream siltation.	82	3.66	40		30	-0.216
Q3a	Deer, rabbit and rodent predation make regeneration of oaks and white pine extremely difficult.	82	3.61	42		n/a	n/a
Q9b	State land ownership allows for long term study of problems and issues, giving state agencies an opportunity to take the lead in innovation in harvest and management methods.	82	3.60	43		14	-0.513
Q8g	We should increase funding for stewardship planning assistance to private landowners.	81	3.58	44		15	-0.515
Q1k	The condition of urban forests (as opposed to health) continues to decline due to poor selection, placement, stock, and planting procedures.	84	3.57	45		39	-0.163
Q1j	Guidelines to determine adverse impacts from harvest and forest management activities have been developed and need to be enforced.	84	3.56	46		n/a	n/a

Q3c	We should provide more old growth on state land to ensure that the needs of wildlife dependent on this habitat type are met.	82	3.54	47		52	0.003
Q7d	Decreasing profit margins will threaten smaller operators, resulting in a decline of local markets.	82	3.54	47		45	-0.104
Q7b	Non-timber uses will continue to grow (e.g., fruits, nuts, berries, and ginseng; selling hunting rights).	83	3.54	47		n/a	n/a
Q5d	Control/management of honeysuckle	83	3.41	50		49	-0.094
Q1f	Conifer plantations should be discouraged in hardwood territory.	82	3.27	51		51	-0.080
Q11c	Recreational opportunities on forested lands are threatened because of conflicts between users (e.g., horse riders vs. hunters).	80	3.19	52		n/a	n/a
Q3d	We should determine how to transition from the predominant oak cover type to a cover type that will be of economic and wildlife benefit.	83	3.18	53		41	-0.268
Q4e	There is a lack of access for harvesting small woodlands within fragmented small holdings.	82	3.12	54		59	-0.008
Q3e	Management plans should be implemented with wildlife as a top priority.	84	***3.08***	**55**		58	-0.040
Q8f	Grazing of woodlands continues to be a problem.	81	***2.96***	**56**		35	-0.411
Q9c	There is a lack of management for growing timber and not enough harvesting on public land.	81	***2.90***	**57**		61	-0.028
Q5f	Control/management of earth worms	83	***2.78***	**58**		n/a	n/a
Q9a	We should harvest more timber on state lands to reduce harvesting pressure on privately held tracts.	82	***2.61***	**59**		63	-0.031

**As not all 2001 statements were present/comparable in the 2013 survey, only 46 of the 65 ranks from 2001 are shown here.*

Table 4: Other exotic (or native) invasive species listed by participants.

Species	*N*	*(Average Rating)**
Emerald Ash Borer	18	4.18
Japanese Barberry	6	4.17
Oriental Bittersweet	6	4.4
Multiflora Rose	2	5
Thousand Cankers Walnut Disease	1	5
Dutch Elm Disease	1	4
Wild Parsnip	1	3

Red Cedar	1	3
Turkeys	1	5

**Average rating is not an appropriate measure for most of these because sample size is so small; however, the average rating for EAB is useful as it reflects an overall high importance rating, despite it not being listed in the survey itself.*

Comparisons to 2001 Survey Results

Several constraints prevented statistical comparison of average means, including changes in audience, survey format, survey design, and wording changes to some statements. However, some patterns can be noted by comparing overall rank of statements between 2001 and 2013 (Table 3). Notably, the top eleven (i.e. most important) statements from 2013 contained three of the top 10 (i.e. top priority) statements from 2001: statements about controlling buckthorn, losing quality oak, and increasing landowner education to encourage active forest management. Further, the bottom 10 (i.e. least important) statements from 2013 contained four of the bottom 10 (i.e. least priority) statements from 2001: statements about lack of access for harvesting small woodlands, implementing management plans with wildlife as the top priority, and increasing harvest on public land (two statements). Out of the statements included in both surveys, the statement *"We should harvest more timber on state lands to reduce harvesting pressure on privately held tracts"* was ranked last in both 2001 and 2013.

In terms of changes in importance/priority between 2001 and 2013, issues that seemed to increase in importance the most over time included statements about: control of garlic mustard (biggest increase), long-term protection of forest land to conserve the forest base, and encouraging low impact logging techniques. Issues that seemed to decrease in importance the most over time included statements about: promoting forest management to improve genetic quality (biggest decrease), increasing funding for stewardship planning assistance and incentives programs, innovation and study on state forest lands, grazing of woodlands, and the need for better markets for low quality trees.

Overall Forest Management in Southeast Minnesota

In addition to the 59 issue statements, participants were asked a closed-ended question near the end of the survey about overall forest management in southeast Minnesota:

> *"Overall, has forestry management in southeast Minnesota improved or declined in the last 10 years?"*

Results indicate that respondents (n=75) were spread fairly evenly in their opinions: 28% of respondents thought overall management had mostly or somewhat **improved** in the last 10 years, 24% thought overall management had mostly or somewhat **declined**, 28% thought overall management had **neither improved nor declined**, and 20% reported that they did not know. When question options were converted to a 5-point scale, the overall rating from 60 of 75 respondents (excluding "don't know"), was **3.00** – exactly in the middle, which translates to an average rating of "**neither improved nor declined"**. Some examples of why participants responded the why they did were found in the final comments:

"I chose that it's declined because of the increased parcelization. It results in loss of woodlands and wildlife corridors."

"Locally, the DNR has done well at working with landowners to direct seed with oak, maple, etc. Results have been very promising."

Open Ended Questions Summary

In the open-ended section of the survey, participants were asked to list and rate up to five additional problems, opportunities, or goals pertaining to forests in southeast Minnesota. Sixteen respondents (18.8%) listed 23 additional issues (Table 5). The overall average rating given to these issues was 4.52 on a scale of 1 to 5, with 5 being "very important"; this high average was likely due to respondents only listing additional issues if they felt those issues were important. Issues were grouped by the same 11 categories used to group the closed-ended statements; if a statement contained elements of multiple categories, it was placed in the most appropriate category or the "other" category. The categories with the greatest number of issues added by participants included: financial/market, soil and water quality, and private land management. The categories of "development" and "wildlife" received no further issues. Other issues listed by respondents that did not fit one of the 11 categories included climate change, lack of coordination between government and non-governmental organizations, easements, and frac sand mining.

Table 5: Additional problems, opportunities, and goals suggested by participants. Issues are listed arranged by the same topic areas used to organize the closed-ended questions, except for the "Other" category which contains issues that did not fit the initial categories. Parenthetical numbers are the ratings given to each issue by the respondent.

Other	• What will climate change do to the forest? (5) • lack of coordination between government and NGO's (5) • perm easements to preserve woodland (5) • Frac sand mining issues (4)
Financial/market	• conservation dollars-long term availability to implement projects (5) • Should encourage a use for low value resources such as urban wood debris (3) • How do we engage the Tuohy Furnitures an[d] other businesses in SE MN in the discussion and activities? (4) • Find a use for weedy trees like boxelder, cottonwood, willow, and buckthorn. (4)
Forest health – Soil and water quality	• More information and research data is needed about the water quality benefits of well managed forest (5) • Logging road erosion (5) • Coordination with stakeholders in the water quality arena. (5)
Private land management	• Linking timber harvesting with proper management on private lands. (5) • Grazing as a multi-use option. Silviculture (3)

	• develop a better flow of technical service for land owners with cost share assistance (5)
Biodiversity	• Prairies and oak savannas are 2 other habitat types that need to be managed on both private and stat[e] (5) • Focus on species and abundance of trees in riparian corridors; trees not always best. (4)
Recreation	• ATV damage (5) • Snowmobile trails; off road trails (4)
Forest health – Exotic invasive species	• Japanese barberry (4) • Ash borer (5)
Public education	• Coordinate local and regional education events among the various agencies (4)
Timber management, harvesting, and regeneration	• Promoting Fire (5)
Public land management	• Maintaining state ownership of forested areas (5)
Forest health – Development	*[none]*
Wildlife	*[none]*

Next, participants were asked to respond to two open-ended questions about positive and negative outcomes of land stewardship in southeast Minnesota:

> *"What land stewardship activities or issues in southeast Minnesota are working (positive results), and why? Please be as specific as possible."*
>
> *"What land stewardship activities or issues in southeast Minnesota are NOT working (negative results), and why? Please be as specific as possible."*

If a respondent listed several distinct issues for either question, the response was separated into multiple statements. For the question about positive results, 26 respondents (30.6%) provided 33 useable statements. For the question about negative results, 25 respondents (29.4% of respondents) provided 32 useable statements.

The categories about financial/market and private land management issues received the most statements. For the financial category, positive statements largely reflected the benefits of tax or cost-share programs and the Forest Stewardship program; for example:

> *"2c tax law has increased interest and contact by landowners with forestry."*

Negative financial issues mostly related to lack of capacity, specifically for private landowner assistance:

> *"In my opinion, there are not enough resources available for those who own very small acreages of forest land. More assistance is needed for these individuals."*
>
> *"There are not enough qualified persons to develop the management plans in a timely fashion."*

Concerns over lack of state capacity were expressed in some of the final comments at the end of the survey as well, further suggesting that this was a pressing issue for some survey respondents:

> *"Need boots on the ground. The need is there, the desire is there, there are people who are ready, willing, and able to put conservation and forestry practices on the ground, but no technical assistance is available."*
>
> *"DNR is looked to as an expert resource but the forestry staff is several counties away."*
>
> *"The state no-longer has an emphasis on providing assistance to private landowners. The removal of this as a priority has diminished a solid educational component [and] results in landowners not getting sufficient "on the ground" information so they truly understand the importance of proper management."*

Positive statements about private land management noted progress in landowner education, benefits of forest stewardship plans, and progress in reducing grazing in woodlands. However, negative statement noted nearly the opposite: weaknesses of forest stewardship plans and landowner education, and poor management of forests on agricultural land. Some examples of the diversity of opinions around forest stewardship plans, for example, included:

> *"Stewardship plans raise awareness of resources and provide direction. We need to promote them to more small woodland owners."*
>
> *"Stewardship plans with no follow through."*

The categories on timber management/harvesting/regeneration and invasive species also received a fair number of comments, though they were mostly negative. Examples of this from the timber category included:

> *"Basic management! Over harvesting or harvesting too soon."*
>
> *"'Mill sponsored' foresters do not promote good genetics and sound oak management."*

Negative comments about invasive species were mostly oriented around buckthorn management. However, one respondent noted that "early detection and management of some invasive species (EAB and Oriental bittersweet)" has been positive in the region.

Some of the positive results noted that did not fit well in any of the 11 categories included: landscape planning and the watershed approach, a peer-lead council of farmers, restoration efforts, and success of CAP plans. Negative results included issues with farming regulations, changes to Soil and Water Conservation districts, and unsustainable harvest of American ginseng.

Table 6: Positive and negative results of land stewardship activities or issues in southeast Minnesota, as suggested by participants. Issues are listed arranged by the same topic areas used to organize the closed-ended questions, except for the "Other" category which contains issues that

did not fit the initial categories. Parenthetical numbers are the ratings given to each issue by the respondent.

Other	*Positive*	• NRCS forestry Initiative utilizing the CAP plans is working well for identifying what a producer is needing to do in their forestlands. There are several forestry initiatives and producers forget what program or programs that they are in. They tend to not have a good understanding of what's available by others and want to both programs -Issues with the message that is being delivered by others. • Landscape planning and the watershed approach. i.e. whitewater and root river landscape plans leading to individual property plans and cost share direction. It works because there is one point of contact. • Whitewater Farmer led council. Farmers are more likely to listen to their peers than a top heavy governmental bureaucracy. These farmers care about our environment and own the land that needs to be protected from erosion. They learn from what has worked for other farmers. • Restoration of some forest land, prairies and oak savannas on both private and public lands due to programs and efforts of state and federal agencies and NGOs. • Also more focus is needed on southern Minnesota. Not all of the trees in Minnesota are up north! • CAPS for Forest Plans that they can use for future related forest stand improvement • Professional management of lands and waters in the outdoor recreation system has produced good quality forests and regeneration of oak communities, healthier river reaches with better water quality than would be found otherwise and substantial outdoor recreation opportunity.
	Negative	• *[regulation]* Federal farm policies sometimes work in direct opposition to conservation programs. We have had inquiries about RIM for easements on forest land but it is not eligible. • *[regulation]* The largest problem I see is more restrictions being placed on livestock, resulting in livestock farmers quitting and pastureland becoming highly erodible fields and woodlots becoming dense buckthorn infestations. • Soil and Water districts. These districts are becoming the home of special interest groups (organic farmers) and are losing the respect of the general population because they are no longer main stream. • Focus on short term instead of long term. • American ginseng, for example, has not been harvested or managed in a sustainable manner.
Financial/ market	*Positive*	• *[priv. mgt.]* Forest Stewardship Plans, but more financial incentives needed to encourage implementation. • Cost-share activities on private lands. Because they involve and educate the private landowner and they get "things" accomplished on the ground. • 2c tax law has increased interest and contact by landowners with forestry. • CRP is still a beneficial program for protecting more sensitive areas

		• The forest stewardship program, EQIP, 2C managed forest land • Stewardship tax incentive. CRP tree planting practices. • EQIP has funded plans on some tracts but there are extremely limited individuals that are certified to write plans.
	Negative	• *[priv. mgt., capacity]* Small (less than 40 acre) woodlot owners are generally not able to get much help. DNR has neither the staff nor the funds to do so. • *[priv. mgt., capacity]* Unmanaged trails and abandoned pasture areas. Less funding and staffing available at local DNR offices. Too much hiring taking place in state offices at both DNR and BWSR and project dollars are being taken away at the local level. Actually both project and technical assistance dollars are considerably less. Grants do not provide for the technical assistance. The majority of funding now goes to "chosen" areas. If you are not in one of those areas the options for being able to help landowners who walk in the door become very limited. • *[priv. mgt., capacity]* In my opinion, there are not enough resources available for those who own very small acreages of forest land. More assistance is needed for these individuals. • *[priv. mgt., capacity]* There are not enough qualified persons to develop the management plans in a timely fashion. • *[priv. mgt.]* Producers that own forestlands tend to lose sight of their goals and objectives- Some plans are getting updated but no implementation on the producers side they understand that management of forestland is time consuming and they are choosing not to implement their plans. They think by developing a plan they will be getting a tax break on their forestlands. They should have to complete at least a percentage of the CAP plan. We can write lots of plans and if they never get implemented on the land-What good are they. When it's tied to taxation of land producers are doing it for the wrong reasons.... A percentage implement everything that was identified.... So I would say forestry management is somewhat improved but has a long way to go.... at a high cost to producers & tax payers of the state. • *[priv. mgt.]* High corn and bean prices are causing more landowners to withdraw from CRP, and other conservation programs. The majority of farmers still see their woods as a wasteland so they disregard it as worthless unless it generates revenue. The few that do see their value can create a diverse system that is sustainable. • [capacity] I have the impression that we have lost a lot of public sector staff over the past 10 years or more. That lost staff at state and local levels is an impediment to the need for continuity of the effort.
Private land management	*Positive*	• I am encouraged by the results of some educational activity and the genuine interest of landowners that has been generated. Those that are interested in maintaining their woodlands have been willing to put the work into it. • DNR offered forestry stewardship plans for free for smaller timber tracts of land. that seemed to be a valuable asset for landowners in the Goodhue/Wabasha Counties

		• Stewardship plans raise awareness of resources and provide direction. We need to promote them to more small woodland owners. • programs or easements to exclude livestock on woodland • More livestock exclusion is happening because of economic factors. • Local DNR foresters implement a lot of activities on private land alongside good vendors but that story is not often told/appreciated. • I think the concept by private landowners to develop plans is improving and those that are educated by the positive results of using a management plan on their woodlands has shown the positive results to the overall woodland quality.
	Negative	• Stewardship plans with no follow through • The majority of woodland owners still view it as non-productive wasteland and treat it as such • Forest Stewardship plans are too generic. • Educating landowners seems to be lacking. Just getting the word out on different activities to make landowners aware of their options or potential issues would be very beneficial. • Lack of conservation on private agricultural lands is overwhelming important ecosystem services and adversely impacting resources held in public trust.
Timber management, harvesting, and regeneration	*Positive*	• Direct seedings seem to be successful. • Prescribed burning of oak woodlands and forests and associated open habitats. Forest burns are showing positive results when diversity and native plant communities are used as measures.
	Negative	• Some private loggers leave sites in an unstable condition, damaging forest and water resources. • Very little oversight on timber harvest activities within counties in SE. if grading will take place to accommodate access/haul roads, some oversight and inspections need to be implemented to prevent erosion for the job site. • Basic management! Over harvesting or harvesting too soon. • 'Mill sponsored' foresters do not promote good genetics and sound oak management. • Cull trees are hard to take when markets are poor. • Highgrading, harvesting without a forester, not recognizing forestland as a valuable resource.
Forest health – Exotic invasive species	*Positive*	• Invasive species control. • Early detection and management of some invasive species (EAB and Oriental bittersweet).
	Negative	• Buckthorn control is still far from working. It is a long-term process (5-10 years) and most cost-share practices are short term and the funding for them is short term. If a neighbor does not control buckthorn, all of my work is in vain. • Buckthorn control - to overwhelming.

		• Control of invasive species-landowner (including state) commitment and funding. • Lack of funding and interest to remove buckthorn from woodlands. • Not addressing new invasives quickly enough. They are arriving faster than we can keep up, by the time they get here they are already listed as invasive in other states.
Public education	*Positive*	• Local SWCD-sponsored education events are well attended. • Educational efforts by U of M, DNR and SWCDs, but need more. • The public is getting further and further removed from the resource. Hunting is the biggest/best link to make.
	Negative	• Severe reductions in forest stewardship, forest conservation outreach and forest management efforts is not benefitting forest resources nor helping to promote a holistic land ethic to sustain these resources into the future.
Biodiversity	*Positive*	• Goat prairie restoration by DNR Dorer forest management is quite good by DNR
	Negative	• Conservation of the rich biodiversity in the SE suffers from inadequate resources and lack of public appreciation. Reliance on local land use planning and engagement is not working to adequately address conservation issues. Conservation of natural open habitats (i.e., prairie and brushlands, and stands of early successional tree species/communities (e.g. big tooth aspen) has suffered from competing land uses and inadequate resources.
Forest health – Development	*Positive*	*[none]*
	Negative	• Good quality forest land being converted to marginal row crop land. • Right now grubbing out trees and plowing under grassland. Maybe some incentive to keep even moderate value woodlots (which are better than row crop acres)?
Forest health – Soil and water quality	*Positive*	• I believe that land in the CRP is helping control erosion and helping to lessen the impact of flooding.
	Negative	*[none]*
Recreation	*Positive*	• Recreational opportunities are good for the economy and can be used to preserve working forests.
	Negative	*[none]*
Public land management	*Positive*	• Public forest land acquisition has been a critical and positive activity for forest land in SE Minnesota; unfortunately, it has been de-emphasized to nearly eliminated in too many places and times as a stewardship tool. Therefore it is less effective than it could be.
	Negative	• *[none]*

Wildlife	*Positive*	• The WMA complexes are outstanding resources for the public. I appreciate all the wooded acres.
	Negative	• *[none]*

Section 4
Discussion

Summary of Findings and Comparison to 2001

Respondents to the 2013 survey gave the overall highest average ratings to statements about biodiversity, indicating an awareness of and concern for southeast Minnesota's higher-than-average concentrations of biodiversity compared to other parts of the state. Certain soil and water quality issues concerning logging techniques and certain timber issues concerning oak management also ranked highly among survey respondents. While invasive species such as honeysuckle and earth worms were viewed as negligible, invasive species in general seemed to be a pressing issue. Control of species such as buckthorn, garlic mustard, and oak wilt were given high overall rankings. In fact, buckthorn received the highest average rating of all 59 listed issues. It is possible that invasive species ratings were influenced by participants ranking species against one another instead of considering the individual importance of each; however, the results reflect clear differences among species, in terms of how participants viewed the urgency of their control. Respondents also added seven invasive species that were not listed; the most frequently added species was emerald ash borer, which was added by 75% of respondents who listed at least one species. Survey respondents did not add as many additional issues as expected; out of the 23 additional issues that were listed, the most popular subjects were financial/market, soil and water quality, and private land management issues.

Respondents were fairly evenly split over whether overall forestry management in southeast Minnesota has improved, declined, or stayed the same. This mix of viewpoints was also evident in the open-ended responses to the question about positive and negative results of land stewardship activities/issues. Financial issues (mostly capacity-related) and private land management issues were the most commonly discussed topics in these responses.

Some amount of consistency was evident between 2001 and 2013 responses, to the degree that they were comparable. Respondents from both years overlapped on 3 of 10 top issues and 4 of 10 bottom issues, in terms of importance/priority. However, some changes were evident. Concern over invasive species in general seems to have intensified, especially regarding garlic mustard, which saw the largest overall increase in importance/priority rank of any issue. The addition of seven new species by 2013 respondents, as mentioned above, potentially indicates an increase in number of species of concern today compared to the number identified by 2001 respondents when the survey was originally written. Other issues decreased in importance by 2013 respondent standards, such as the need to manage forests for genetic diversity, and the need to increase funding for stewardship incentives and planning assistance. This latter change seems odd in the light of the 2013 open-ended question responses, which reflected a need for greater capacity for technical assistance to landowners. Views about increasing timber harvest on public land remained consistent between surveys; 2001 and 2013 respondents saw this as the lowest priority/least important issue. This seems unsurprising, as so little forest land in southeast Minnesota is publically owned.

Limitations of the Survey

It is important to note some of the limitations of the survey. While the sample pool and number of respondents were higher in 2013 than in 2001, the 2013 respondent pool was still limited by lack of gender and age diversity. This was likely largely due to constraints in the available demographic; however, the database of key stakeholders may also have been somewhat out-of-date. Further, several respondents noted that they were not well-informed on forestry issues, and several others who replied but did not fill out the survey noted that they refrained from doing so due to lack information on the subject. This latter point suggests that the large non-response rate may have been, in part, a reflection of invited stakeholders' lack of knowledge on the issues.

The format of the closed-ended statements received criticism from some respondents in the comments, including concerns over poor wording and lack of clarity at times. A couple of respondents also noted that answers should have been ranked on a scale of "agree" to "disagree," rather than importance, making questions difficult to answer. One survey invitee noted that he or she did not fill out the survey for this reason:

> *"I think I started this once before. I don't like the way the answers are set up. Important to non important isn't a way to answer these and I don't have time to write verbiage on each one. Thus my unanswered survey."*

These concerns should be considered by the reader when interpreting the results. Further, these concerns may have, in part, contributed to the low response rate for the open-ended questions, which were located at the end of the survey after the closed-ended issue statements.

Future Steps

The survey will be followed by several focus groups, to be held in September 2013, in order to further explore some of the most important issues identified by the survey. The focus groups could also provide an opportunity to discuss some of the more current issues identified by respondents in the open-ended questions, such as emerald ash borer, climate change, and "frac sand" mining, as well as to address some of the limitations of the survey. The focus groups will consist of three small-group discussions with large-group discussions at the beginning and end of the session. The focus groups will mainly consist of survey respondents, but landowners who are leaders in their community will also be invited to participate in the discussions, thus increasing the scope of the key stakeholder audience.